PRELIMINARY CAST FABRICATION

One-step Method of Cast Fabrication

- Prepare impression for pouring.
  - Rinse impression with a thin slurry of artificial dental stone to remove saliva and mucus.
  - Disinfect impression in disinfecting solution according to manufacturer's instructions.
  - Rinse disinfected impression with body temperature tap water.

One-step Method of Cast Fabrication

- Shake off excess water from impression.
- Cover disinfected impression with a headrest cover.
- Suspend impression by handle to prevent distortion.

One-step Method of Cast Fabrication

- Mix dental stone.
  - Measure water and weigh dental stone according to manufacturer's instructions for water/powder ratio.
  - Incorporate dental stone into water in mixing bowl and mix for 30 seconds.
  - Place mixing bowl on vibrator to eliminate as much air as possible from stone mix.

100
ml
90
80
70
60
50
40
30
20
10

One-step Method of Cast Fabrication

- Pour the impression.
  - Place the impression on the vibrator and with spatula place stone mix into corner (heel area) of impression.
  - Flow stone mix from corner to corner, allowing the stone to push out air and water.

One-step Method of Cast Fabrication

- For partially edentulous or dentulous impressions, turn tray slowly to allow stone mix to flow from tooth to tooth, from one corner to the other.

One-step Method of Cast Fabrication

- For edentulous impressions, turn tray slowly to allow stone mix to flow from one corner around to the other until all anatomical features are covered.

One-step Method of Cast Fabrication

- After all teeth and/or anatomical features are covered with stone, fill impression to peripheral borders.
- Suspend the poured impression from handle while preparing base.

One-step Method of Cast Fabrication

- Form base.
  - Pour excess stone mix onto a plastic sheet (or other smooth clean surface) and form a patty for base.
  - Invert poured impression onto base and work stone from base up to peripheral roll.

One-step Method of Cast Fabrication

- Remove excess stone from mandibular tongue area.
- Trim excess stone from borders with spatula before the initial set (13-17 minutes).

– Allow dental stone to reach final set (45 minutes).

One-step Method of Cast Fabrication

- Separate the impression from cast.
  - Pull impression tray in a direction least likely to break any teeth from the cast.
  - Inspect the preliminary cast for any defects (voids, bubbles, or broken teeth).

One-step Method of Cast Fabrication

- Trimming the preliminary cast.
  - Rinse cast in **S**aturated Calcium **S**ulfate **D**ihydrate **S**olution (SDS) prior to trimming to prevent stone particles from adhering to the cast.
  - Trim cast with model trimmer and craftsman's knife to proper dimensions.

HIBICLENS
PowerRoll

One-step Method of Cast Fabrication

- Trim base parallel to occlusal surface or ridge.
- Base should be 15 mm thick.
  - Maxillary: measured from the deepest part of the palatal vault.
  - Mandibular: measured from the tongue area.

Whip Mix

One-step Method of Cast Fabrication

- Trim posterior (heel) section 3-5 mm beyond most distal posterior tooth or anatomical landmark.
  - –Maxillary - hamular notch.
  - –Mandibular - retromolar pad.

One-step Method of Cast Fabrication

- Trim buccal and anterior sections 3-5 mm from depth of sulcus.
- Use craftsman’s knife and trim edge of outer perimeter.

One-step Method of Cast Fabrication

- Rinse the cast in SDS and allow to dry.
- Place patient's identification on cast.
  - Write patient's last name and first initial on base of cast.
  - Place trimmed cast in case pan and return to dentist.

Criteria for Clinically Acceptable Preliminary Casts

- Free from voids or bubbles. Must be level.
- Base thickness 15 mm.
  - Maxillary: measured from the deepest part of the palatal vault.
  - Mandibular: measured from the tongue area.

Criteria for Clinically Acceptable Preliminary Casts

- Borders.
  - Posterior (heel) section 3-5 mm beyond most distal posterior tooth or anatomical landmark.
    - Maxillary: hamular notch.
    - Mandibular: retromolar pad.

Criteria for Clinically Acceptable Preliminary Casts

- Buccal and anterior sections 3-5 mm from depth of sulcus.
- No broken teeth, nicks or abrasions on tissue surface.
- Must be clean.

Any Questions ? ? ?

Summary

- One-step Method of Cast Fabrication.
- Criteria for Clinically Acceptable Preliminary Casts